SEQUENCE LISTING

5	(1) GENERAL INFORMATION: (i) APPLICANTS: Peter W. Laird, Cindy A. Eads and Kathleen D. Danenberg
	(ii) TITLE OF INVENTION: PROCESS I am
	METHYLATION ANALYSIS
	(iii) NUMBER OF SEQUENCES: 54 (iv) CORRESPONDENCE ADDRESS:
10	ADDRESSEE: Davis Wright Tremaine bbi
	(B) STREET: 1501 Fourth Avenue
	2600 Century Square
	(C) CITY: Seattle
15	(D) STATE: Washington
	(E) COUNTRY: USA (E) ZIP: 98101-1688
ļ ak	CONDUMED BEADABLE FORM:
rah Tah	(v) COMPUTER READABLE FORM: (A) MEDIUM TYPE: Diskette-3.5 inch, 1.44 MB
	(A) INDICATE TO
<i>2</i> 0=	storage (B) COMPUTER: PC compatible
190	(C) OPERATING SYSTEM: Windows 95
124	(D) SOFTWARE: Word 97
n n	(vi) CURRENT APPLICATION DATA: (A) APPLICATION NUMBER:
25	(A) APPLICATION NUMBER. (B) FILING DATE:
r.	(C) CLASSIFICATION:
1 2 2	(Vii) PRIOR APPLICATION DATA: N/A
12	(A) APPLICATION NUMBER: N/A
30	(B) FILING DATE: N/A
<u> </u>	(VIII) Million P. Oster
	DECTERDATION NUMBER: 32,585
	(C) REFERENCE/DOCKET NUMBER: 47075 9
35	TELECOMMUNICATION INFORMATION:
33	$\sim 10^{-10}$ TRIEDHONE: (206) 628-7/11
	(B) TELEFAX: (206) 628-7699
	(2) INFORMATION FOR SEQ ID NO:1: (i) SEQUENCE CHARACTERISTICS:
	(Λ) ΤΕΜΟΤΗ· 19 base pairs
40	(A) LENGTH: 19 base pairs (B) TYPE: nucleic acid
	(C) STRANDEDNESS: single
	(D) TOPOLOGY: linear
	(ii) MOLECULE TYPE: DNA
4:	(iii) HYPOTHETICAL: No
	(xi) SEQUENCE DESCRIPTION: SEQ 15 NOTE:

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    (2)
              SEQUENCE CHARACTERISTICS:
         (i)
                            24 base pairs
                   LENGTH:
5
                   TYPE: nucleic acid
              (B)
                   STRANDEDNESS: single
             . (C)
                               linear
                   TOPOLOGY:
               (D)
               MOLECULE TYPE:
                                DNA
         (ii)
         (iii) HYPOTHETICAL:
10
         (ix) FEATURE:
                     NAME/KEY: 5' substitution with fluorescent
                (A)
    reporter dye 6FAM (2,7-dimethoxy-4,5-dichloro-6-carboxy-
    fluorescein-phosporamidite-cytosine); 3'substitution with
    quencher dye TAMRA (6-carboxytetramethylrhodamine).
15
                SEQUENCE DESCRIPTION: SEQ ID NO:2:
Ļak
    CGATAAAACC GAACGACCCG ACGA
C.
121
          INFORMATION FOR SEQ ID NO:3:
20
[]]
     (2)
                SEQUENCE CHARACTERISTICS:
          (i)
                               19 base pairs
                     LENGTH:
                 (A)
                     TYPE: nucleic acid
 t"
                (B)
                     STRANDEDNESS:
 L!!
                 (C)
                                 linear
                     TOPOLOGY:
                 (D)
                MOLECULE TYPE:
                                 DNA
          (ii)
 (iii) HYPOTHETICAL:
                                No
                SEQUENCE DESCRIPTION: SEQ ID NO:3:
 ļai
           (xi)
 30
     GCCGACACGC GAACTCTAA
                               19
           INFORMATION FOR SEQ ID NO:4:
      (2)
                 SEQUENCE CHARACTERISTICS:
           (i)
                                23 base pairs
                      LENGTH:
                 (A)
                      TYPE: nucleic acid
                 (B)
 35
                                      single
                      STRANDEDNESS:
                 (C)
                      TOPOLOGY:
                                  linear
                 (d)
                                  DNA
                 MOLECULE TYPE:
           (ii-)
           (iii) HYPOTHETICAL:
                                 No
                 SEQUENCE DESCRIPTION: SEQ ID NO:4:
           (xi)
 40
      ACACATATCC CACCAACACA CAA
                                      23
           INFORMATION FOR SEQ ID NO:5:
       (2)
                  SEQUENCE CHARACTERISTICS:
            (i)
  45
                                30 base pairs
                       LENGTH:
                  (A)
                       TYPE: nucleic acid
                  (B)
                       STRANDEDNESS:
                                       single
                  (C)
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19

	(D) TOPOLOGY: linear
	(ii) MOLECULE TYPE: DNA
	(iii) HYPOTHETICAL: No
5	(ix) FEATURE: (A) NAME/KEY: 5' substitution with fluorescent reporter dye 6FAM (2,7-dimethoxy-4,5-dichloro-6-carboxy-fluorescein-phosporamidite-cytosine); 3' substitution with quencher dye TAMRA (6-carboxytetramethylrhodamine). (xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:
10	CAACCCTACC CCAAAAACCT ACAAATCCAA 30
15	(2) INFORMATION FOR SEQ ID NO:6: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 21 base pairs (B) TYPE: nucleic acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear (ii) MOLECULE TYPE: DNA (iii) HYPOTHETICAL: No
20°	(xi) SEQUENCE DESCRIPTION: SEQ 10 NO. 0.
	AGGAGTTGGT GGAGGGTGTT T 21
25 1 100 11 11 11 11 11 11 11 11 11 11 11	(2) INFORMATION FOR SEQ ID NO:7: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 18 base pairs (B) TYPE: nucleic acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear (ii) MOLECULE TYPE: DNA (iii) HYPOTHETICAL: No (xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:
35	
40	(2) INFORMATION FOR SEQ ID NO:8: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 22 base pairs (B) TYPE: nucleic acid
	(C) STRANDEDNESS: single (D) TOPOLOGY: linear (ii) MOLECULE TYPE: DNA (iii) HYPOTHETICAL: No
45	
	(ix) FEATURE: (A) NAME/KEY: 5' substitution with fluorescent reporter dye 6FAM (2,7-dimethoxy-4,5-dichloro-6-carboxy-fluorescein-phosporamidite-cytosine); 3'substitution with
	31

```
quencher dye TAMRA (6-carboxytetramethylrhodamine).
              SEQUENCE DESCRIPTION: SEQ ID NO:8:
   CGCGACGTCA AACGCCACTA CG
5
         INFORMATION FOR SEQ ID NO:9:
    (2)
               SEQUENCE CHARACTERISTICS:
                    LENGTH: 30 base pairs
               (A)
                    TYPE: nucleic acid
               (B)
                                    single
                    STRANDEDNESS:
               (C)
10
                                linear
                    TOPOLOGY:
               (D)
               MOLECULE TYPE:
                                DNA
         (ii)
         (iii) HYPOTHETICAL:
                               No
               SEQUENCE DESCRIPTION: SEQ ID NO:9:
         (xi)
15
    CGTTATATAT CGTTCGTAGT ATTCGTGTTT
                                          30
         INFORMATION FOR SEQ ID NO:10:
SEQUENCE CHARACTERISTICS:
          (i)
D
                    LENGTH: 27 base pairs
                (A)
20
                     TYPE: nucleic acid
                (B)
ļ.b
                     STRANDEDNESS:
                                     single
 Ci i
                (C)
                                linear
                     TOPOLOGY:
 Į,
                (D)
                                DNA
                MOLECULE TYPE:
 (ii)
                               No
          (iii) HYPOTHETICAL:
25
                SEQUENCE DESCRIPTION: SEQ ID NO:10:
          (xi)
     TTATATGTCG GTTACGTGCG TTTATAT
 10 10
                                        27
          INFORMATION FOR SEQ ID NO:11:
     (2)
                SEQUENCE CHARACTERISTICS:
                     LENGTH: 22 base pairs
                 (A)
                     TYPE: nucleic acid
                 (B)
                     STRANDEDNESS: single
               .. (C)
                                 linear
                      TOPOLOGY:
                 (D)
 35
                MOLECULE TYPE:
                                 DNA
           (ii)
           (iii) HYPOTHETICAL:
                                No
                 FEATURE:
           (ix)
                      NAME/KEY: 5' substitution with fluorescent
                 (A)
      reporter dye 6FAM (2,7-dimethoxy-4,5-dichloro-6-carboxy-
      fluorescein-phosporamidite-cytosine); 3'substitution with
 40
      quencher dye TAMRA (6-carboxytetramethylrhodamine).
           (xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:
      CCCGTCGAAA ACCCGCCGAT TA
                                    22.
  45
           INFORMATION FOR SEQ ID NO:12:
      (2)
           (i) SEQUENCE CHARACTERISTICS:
```

32

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5	 (A) LENGTH: 19 base pairs (B) TYPE: nucleic acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear (ii) MOLECULE TYPE: DNA (iii) HYPOTHETICAL: No (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:
	GAACCAAAAC GCTCCCCAT 19
10	(2) INFORMATION FOR SEQ ID NO:13:
	(i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 25 base pairs
15	(B) TYPE: nucleic acid (C) STRANDEDNESS: single
15	(D) TOPOLOGY: linear
ļai.	(ii) MOLECULE TYPE: DNA
	(iii) HYPOTHETICAL: No (xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:
20	
20 10 10 10 10 25	GGGTTGTGAG GGTATATTTT TGAGG 25
	(2) INFORMATION FOR SEQ ID NO:14:
Li	(i) SEOMENCE CHARACTERISTICS:
25	(A) LENGTH: 28 base pairs (B) TYPE: nucleic acid
ally them who had the office of the state of	(C) STRANDEDNESS: single
	(D) TOPOLOGY: linear
	(ii) MOLECULE TYPE: DNA
30	(iii) HYPOTHETICAL: NO
	(ix) FEATURE: (A) NAME/KEY: 5' substitution with fluorescent
	con /2 7-dimethoxy-4.5-dichloro-b-cdiboxy
35	, Jana MANDA (6-CATOOXVLECTIONIECTION
55	quencher dye TANKA (* CARDON) (xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:
	CCCACCCAAC CACACAACCT ACCTAACC 28
40	(2) INFORMATION FOR SEQ ID NO:15:
40	(i) SEQUENCE CHARACTERISTICS:
	(A) LENGTH: 22 base pairs
	(B) TYPE: nucleic acid (C) STRANDEDNESS: single
	monorocv. linear
45	(ii) MOLECULE TYPE: DNA
	····· πΧΡΟΨΗΕΨΤΟΔΙ.• NO
	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:

22

```
STRANDEDNESS: single
           · (C)
                              linear
                  TOPOLOGY:
              (D)
              MOLECULE TYPE:
                               DNA
         (ii)
         (iii) HYPOTHETICAL:
                              No
              SEQUENCE DESCRIPTION: SEQ ID NO:19:
         (xi)
5
   CAACCAATCA ACCAAAAATT CCAT
         INFORMATION FOR SEQ ID NO:20
    (2)
              SEQUENCE CHARACTERISTICS:
10
                  LENGTH: 28 base pairs
              (A)
                   TYPE: nucleic acid
              (B)
                                   single
                   STRANDEDNESS:
              (C)
                              linear
                   TOPOLOGY:
              (D)
         (ii) MOLECULE TYPE:
                                DNA
15
         (iii) HYPOTHETICAL:
               FEATURE:
                    NAME/KEY: 5' substitution with fluorescent
          (ix)
    reporter dye 6FAM (2,7-dimethoxy-4,5-dichloro-6-carboxy-
                (A)
 ļ.
    fluorescein-phosporamidite-cytosine); 3'substitution with
 quencher dye TAMRA (6-carboxytetramethylrhodamine).
          (xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:
 Ţ
 CCACCACCCA CTATCTACTC TCCCCCTC
25
                                           28
          INFORMATION FOR SEQ ID NO:21:
     (2)
               SEQUENCE CHARACTERISTICS:
 ļ.h
          (i)
                    LENGTH: 22 base pairs
 Ŧij.
               (A)
 ļak
                    TYPE: nucleic acid
               (B)
 STRANDEDNESS:
                                    single
                (C)
 30
                    TOPOLOGY:
                                linear
                (D)
  ļa b
           (ii) MOLECULE TYPE:
                                 DNA
           (iii) HYPOTHETICAL:
                                No
                SEQUENCE DESCRIPTION: SEQ ID NO:21:
           (xi)
 35
     GGTGGATTGT GTGTGTTTGG TG
                                   22
           INFORMATION FOR SEQ ID NO:22:
      (2)
                SEQUENCE CHARACTERISTICS:
           (i)
                    LENGTH: 23 base pairs
                (A)
  40
                     TYPE: nucleic acid
                (B)
                                     single
                     STRANDEDNESS:
                (C)
                                linear
                     TOPOLOGY:
                (D)
           (ii) MOLECULE TYPE:
           (iii) HYPOTHETICAL: No
  45
                 SEQUENCE DESCRIPTION: SEQ ID NO:22:
            (xi)
      CCAACTCCAA ATCCCCTCTC TAT
                                     23
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(2) INFORMATION FOR SEQ ID NO:23: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 36 base pairs (B) TYPE: nucleic acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear (ii) MOLECULE TYPE: DNA (iii) HYPOTHETICAL: No (ix) FEATURE: (A) NAME/KEY: 5' substitution with fluorescen reporter dye 6FAM (2,7-dimethoxy-4,5-dichloro-6-carboxy-fluorescein-phosporamidite-cytosine); 3' substitution with quencher dye TAMRA (6-carboxytetramethylrhodamine). (xi) SEQUENCE DESCRIPTION: SEQ ID NO:23:	
TCCCTTCCTA TTCCTAAATC CAACCTAAAT ACCTCC 36	
(2) INFORMATION FOR SEQ ID NO:24: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 30 base pairs (B) TYPE: nucleic acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear (ii) MOLECULE TYPE: DNA (iii) HYPOTHETICAL: No (xi) SEQUENCE DESCRIPTION: SEQ ID NO:24: (Xi) SEQUENCE DESCRIPTION: SEQ ID NO:24: (1) SEQUENCE CHARACTERISTICS: (A) LENGTH: 18 base pairs (B) TYPE: nucleic acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear (ii) MOLECULE TYPE: DNA	
(iii) HYPOTHETICAL. NO (xi) SEQUENCE DESCRIPTION: SEQ ID NO:25:	
40 TGAGCGCGC TACAGCTT 18	
(2) INFORMATION FOR SEQ ID NO:26: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 18 base pairs (B) TYPE: nucleic acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear	

- (ii) MOLECULE TYPE: DNA
- (iii) HYPOTHETICAL: No
- (ix) FEATURE:

(A) NAME/KEY: 5' substitution with fluorescent

reporter dye 6FAM (2,7-dimethoxy-4,5-dichloro-6-carboxy-fluorescein-phosporamidite-cytosine); 3'substitution with quencher dye TAMRA (6-carboxytetramethylrhodamine).

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:26:

10 ACCACCACGG CCGAGCGG 18

- (2) INFORMATION FOR SEQ ID NO:27:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
 - (ii) MOLECULE TYPE: DNA
 - (iii) HYPOTHETICAL: No
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:27:

CCTTAATGTC ACACACGATT 20

- (2) INFORMATION FOR SEQ ID NO:28:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 22 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
 - (ii) MOLECULE TYPE: DNA
 - (iii) HYPOTHETICAL: No
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:28:

GTTCTCCGGG AGATGTTGCA TA 22

35

40

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deen from other

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25 L

14

14

30

- (2) INFORMATION FOR SEQ ID NO:29:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 22 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
 - (ii) MOLECULE TYPE: DNA
 - (iii) HYPOTHETICAL: No
 - (ix) FEATURE:
- (A) NAME/KEY: 5' substitution with fluorescent reporter dye 6FAM (2,7-dimethoxy-4,5-dichloro-6-carboxy-fluorescein-phosporamidité-cytosine); 3'substitution with quencher dye TAMRA (6-carboxytetramethylrhodamine).

```
CCTCAGTGGG CCTTGGCACA GC
                                 22
        INFORMATION FOR SEQ ID NO:30:
    (2)
5
              SEQUENCE CHARACTERISTICS:
                   LENGTH: 26 base pairs
              (A)
                   TYPE: nucleic acid
              (B)
                   STRANDEDNESS: single
              (C)
                              linear
                   TOPOLOGY:
              (D)
10
               MOLECULE TYPE: DNA
         (ii)
         (iii) HYPOTHETICAL: No
               SEQUENCE DESCRIPTION: SEQ ID NO:30:
         (xi)
    TGGTGGTGTT GAGAAGGTAT AACTTG
15
         INFORMATION FOR SEQ ID NO:31:
    (2)
               SEQUENCE CHARACTERISTICS:
ļ., i.
                    LENGTH: 20 base pairs
 (A)
                    TYPE: nucleic acid
               (B)
20
                    STRANDEDNESS: single
               (C)
 ļ=
                               linear
                    TOPOLOGY:
 m
               (D)
                                DNA
          (ii) MOLECULE TYPE:
 Cont.
          (iii) HYPOTHETICAL: No
 Ľ.
 25
                PUBLICATION INFORMATION:
          (x)
                    AUTHORS: Parsons, et al
                    TITLE: Microsatellite Instability and Mutations
               (A)
     of the Transforming Growth Factor B Type II Receptor Gene in
     Colorectal Cancer
                    JOURNAL: Cancer Res.
                (C)
                    VOLUME:
                              55
                (D)
                             5548-5550
                     PAGES:
                (F)
                     DATE: 01-DEC-1995
                SEQUENCE DESCRIPTION: SEQ ID NO:31:
           (xi)
 35
     TCGCCTCCAA GAATGTAAGT
                                20
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      (2)
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           (i)
                     LENGTH: 21 base pairs
                (A)
 40
                     TYPE: nucleic acid
                (B)
                                     single
                     STRANDEDNESS:
                 (C)
                     TOPOLOGY:
                                 linear
                 (D)
           (ii) MOLECULE TYPE:
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           (iii) HYPOTHETICAL: No
  45
           (x) PUBLICATION INFORMATION:
                     AUTHORS: Parsons, et al
                     TITLE: Microsatellite Instability and Mutations
                 (A)
                 (B)
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SEQUENCE DESCRIPTION: SEQ ID NO:29:

(xi)

of the Transforming Growth Factor B Type II Receptor Gene in Colorectal Cancer JOURNAL: Cancer Res. (C) 55 VOLUME: (D) 5548-5550 PAGES: (F) 5 01-DEC-1995 DATE: SEQUENCE DESCRIPTION: SEQ ID NO:32: (xi) TCTGCATTTT AACTATGGCT C 21 10 INFORMATION FOR SEQ ID NO:33: (2) SEQUENCE CHARACTERISTICS: LENGTH: 21 base pairs TYPE: nucleic acid (B) STRANDEDNESS: single 15 TOPOLOGY: linear (D) MOLECULE TYPE: DNA (ii)Ēai, (iii) HYPOTHETICAL: PUBLICATION INFORMATION: (x) <u>[]</u> AUTHORS: Parsons, et al TITLE: Microsatellite Instability and Mutations ZII of the Transforming Growth Factor B Type II Receptor Gene in Colorectal Cancer JOURNAL: Cancer Res. (C) LM VOLUME: 55 (D) 25 5548-5550 PAGES: <u>|</u>___ . (F) 01-DEC-1995 FI DATE: (G) SEQUENCE DESCRIPTION: SEQ ID NO:33: ļ.i TGACTACTTT TGACTTCAGC C 21 INFORMATION FOR SEQ ID NO:34: (2) SEQUENCE CHARACTERISTICS: LENGTH: 22 base pairs (A) TYPE: nucleic acid (B) 35 STRANDEDNESS: single (C) linear TOPOLOGY: (D) MOLECULE TYPE: (ii) (iii) HYPOTHETICAL: PUBLICATION INFORMATION: 40 Parsons, et al (A) AUTHORS: TITLE: Microsatellite Instability and Mutations of the Transforming Growth Factor B Type II Receptor Gene in Colorectal Cancer JOURNAL: Cancer Res. (C) 45 VOLUME: 55 (D) 5548-5550 PAGES: (F) 01-DEC-1995 DATE: (G)

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AACCATTCAA CATTTTTAAC CC
                                 22
        INFORMATION FOR SEQ ID NO:35:
    (2)
5
               SEQUENCE CHARACTERISTICS:
         (i)
                    LENGTH: 21 base pairs
               (A)
                    TYPE: nucleic acid
               (B)
                    STRANDEDNESS: single
               (C)
                    TOPOLOGY: linear
               (D)
10
               MOLECULE TYPE:
                                DNA
         (ii)
         (iii) HYPOTHETICAL:
                               No
               SEQUENCE DESCRIPTION: SEQ ID NO:35:
         (xi)
    TCCTAAAACT ACACTTACTC C
15
         INFORMATION FOR SEQ ID NO:36:
    (2)
                SEQUENCE CHARACTERISTICS:
g air
          (i)
                     LENGTH: 23 base pairs
TYPE: nucleic acid
                (B)
                     STRANDEDNESS: single
                (C)
                                linear
                     TOPOLOGY:
                (D)
                MOLECULE TYPE:
                                 DNA
          (ii)
          (iii) HYPOTHETICAL: No
                SEQUENCE DESCRIPTION: SEQ ID NO:36:
          (xi)
 hab
     GGTTATTTGG AAAAAGAGTA TAG
                                    23
 Ding.
 1-1
          INFORMATION FOR SEQ ID NO:37:
 (2)
                SEQUENCE CHARACTERISTICS:
          (i)
 30
                     LENGTH: 22 base pairs
                 (A)
 ļ.
                      TYPE: nucleic acid
                 (B)
                      STRANDEDNESS: single
                 (C)
                      TOPOLOGY:
                                 linear
                 (D)
                MOLECULE TYPE:
                                 DNA
           (ii)
 35
           (iii) HYPOTHETICAL: No
                 SEQUENCE DESCRIPTION: SEQ ID NO:37:
           (xi)
      AGAGAGAAGT AGTTGTGTTA AT
 40
           INFORMATION FOR SEQ ID NO:38:
      (2)
                 SEQUENCE CHARACTERISTICS:
           (i)
                                21 base pairs
                      LENGTH:
                      TYPE: nucleic acid
                  (B)
                      STRANDEDNESS: single
                  (C)
  45
                                  linear
                       TOPOLOGY:
                  (D)
                                  DNA
                 MOLECULE TYPE:
            (ii)
            (iii) HYPOTHETICAL:
                                 No
```

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:34:

```
SEQUENCE DESCRIPTION: SEQ ID NO:38:
         (xi)
   ACTACACCAA TACAACCACA T
                                  21
         INFORMATION FOR SEQ ID NO:39:
    (2)
5
               SEQUENCE CHARACTERISTICS:
         (i)
                               12 base pairs
                     LENGTH:
                (A)
                     TYPE: nucleic acid
                (B)
                     STRANDEDNESS:
                                     single
                (C)
                                 linear
                     TOPOLOGY:
                (D)
10
                MOLECULE TYPE:
                                 DNA
          (ii)
          (iii) HYPOTHETICAL:
                                No
                SEQUENCE DESCRIPTION: SEQ ID NO:39:
          (xi)
    AAACCAAAAC TC
                        12
15
          INFORMATION FOR SEQ ID NO:40:
                SEQUENCE CHARACTERISTICS:
          (i)
                      LENGTH: 16 base pairs
 lab.
                 (A)
 TYPE: nucleic acid
                 (B)
20
                      STRANDEDNESS:
                                      single
 F==
                 (C)
                      TOPOLOGY:
                                  linear
 En l
                 (D)
                 MOLECULE TYPE:
                                  DNA
  Į,
           (ii)
           (iii) HYPOTHETICAL:
                                 No
  Ü
                 SEQUENCE DESCRIPTION: SEQ ID NO:40:
 25<sup>[]]</sup>
           (xi)
  CCCACACCCA ACCAAT
                             16
  711
           INFORMATION FOR SEQ ID NO:41:
  <u>F</u>=i
      (2)
                 SEQUENCE CHARACTERISTICS:
           (i)
 3₽
                       LENGTH: 23 base pairs
                  (A)
                              nucleic acid
                       TYPE:
                  (B)
                       STRANDEDNESS:
                                        single
                  (C)
                                   linear
                       TOPOLOGY:
                  (D)
                  MOLECULE TYPE:
                                   DNA
            (ii)
  35
            (iii) HYPOTHETICAL:
                                  No
                  SEQUENCE DESCRIPTION: SEQ ID NO:41:
            (xi)
      GGAGGTTATA AGAGTAGGGT TAA
                                       23
  40
            INFORMATION FOR SEQ ID NO:42:
       (2)
                   SEQUENCE CHARACTERISTICS:
            (i)
                        LENGTH: 24 base pairs
                   (A)
                        TYPE: nucleic acid
                   (B)
                        STRANDEDNESS:
                                         single
                   (C)
   45
                        TOPOLOGY: linear
                   (D)
                   MOLECULE TYPE:
                                     DNA
             (ii)
             (iii) HYPOTHETICAL:
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ССААССААТА ААААСААААА ТАСС
                                   24
         INFORMATION FOR SEQ ID NO:43:
5
    (2)
               SEQUENCE CHARACTERISTICS:
                    LENGTH: 22 base pairs
                    TYPE: nucleic acid
               (B)
                    STRANDEDNESS: single
               (C)
                    TOPOLOGY: linear
               (D)
10
                               DNA
               MOLECULE TYPE:
         (ii)
         (iii) HYPOTHETICAL: No
               SEQUENCE DESCRIPTION: SEQ ID NO:43:
         (xi)
    GTAGGTGGGG AGGAGTTTAG TT
15
         INFORMATION FOR SEQ ID NO:44:
    (2)
               SEQUENCE CHARACTERISTICS:
 Ļ
                    LENGTH: 23 base pairs
                (A)
20
                     TYPE: nucleic acid
                (B)
                    STRANDEDNESS: single
                (C)
 1-1
                                linear
                     TOPOLOGY:
                (D)
 M
                                DNA
               MOLECULE TYPE:
          (ii)
 Lii
          (iii) HYPOTHETICAL: No
 SEQUENCE DESCRIPTION: SEQ ID NO:44:
25
          (xi)
    TCTAATAACC AACCAACCCC TCC
                                   23
 M
          INFORMATION FOR SEQ ID NO:45:
  ļ-1
                SEQUENCE CHARACTERISTICS:
 30
          (i)
                     LENGTH: 27 base pairs
                     TYPE: nucleic acid
  ļ.ai
                (B)
                     STRANDEDNESS: single
                (C)
                     TOPOLOGY: linear
                (D)
                                 DNA
                MOLECULE TYPE:
 35
          (ii)
          (iii) HYPOTHETICAL:
                                No
           (xi) SEQUENCE DESCRIPTION: SEQ ID NO:45:
     TTGTATTATT TTGTTTTTTT TGGTAGG
                                        27
 40
          INFORMATION FOR SEQ ID NO:46:
      (2)
                 SEQUENCE CHARACTERISTICS:
                      LENGTH: 26 base pairs
                 (A)
                      TYPE: nucleic acid
                 (B)
                      STRANDEDNESS: single
                 (C)
 45
                                 linear
                      TOPOLOGY:
                 (D)
                                 DNA
                 MOLECULE TYPE:
           (ii)
           (iii) HYPOTHETICAL:
                                No
```

SEQUENCE DESCRIPTION: SEQ ID NO:42:

(xi)

```
SEQUENCE DESCRIPTION: SEQ ID NO:46:
         (xi)
   CAACTTCTCA AATCATCAAT CCTCAC
                                       26
         INFORMATION FOR SEQ ID NO:47:
    (2)
5
               SEQUENCE CHARACTERISTICS:
         (i)
                              21 base pairs
                     LENGTH:
                (A)
                     TYPE: nucleic acid
                (B)
                     STRANDEDNESS:
                                     single
                (C)
                                 linear
                     TOPOLOGY:
                (D)
10
                MOLECULE TYPE:
                                 DNA
          (ii)
          (iii) HYPOTHETICAL:
                                No
                SEQUENCE DESCRIPTION: SEQ ID NO:47:
          (xi)
    TTTAGTAGAG GTATATAAGT T
                                   21
15
          INFORMATION FOR SEQ ID NO:48:
     (2)
                SEQUENCE CHARACTERISTICS:
  ==1
          (i)
                      LENGTH: 26 base pairs
  £25
                 (A)
                      TYPE: nucleic acid
20^{-1}_{\rm pub}
                 (B)
                      STRANDEDNESS:
                                      single
                 (C)
  (i)
                                  linear
                      TOPOLOGY:
                 (D)
  Ų.
                                  DNA
                 MOLECULE TYPE:
          (ii)
          (iii) HYPOTHETICAL:
                                 No
                 SEQUENCE DESCRIPTION: SEQ ID NO:48:
  III
           (xi)
 25∉
  TAAGGGGAGA GGAGGAGTTT GAGAAG
                                         26
  ---
          INFORMATION FOR SEQ ID NO:49:
  (2)
                 SEQUENCE CHARACTERISTICS:
 30[]
           (i)
                      LENGTH: 15 base pairs
                  (A)
   į ai
                       TYPE: nucleic acid
                  (B)
                       STRANDEDNESS:
                                       single
                  (C)
                       TOPOLOGY:
                                   linear
                  (D)
                 MOLECULE TYPE:
                                   DNA
           (ii)
 35
           (iii) HYPOTHETICAL:
                                  No
                  SEQUENCE DESCRIPTION: SEQ ID NO:49:
           (xi)
                             15
      TTTGAGGGAT AGGGT
  40
           INFORMATION FOR SEQ ID NO:50:
       (2)
                  SEQUENCE CHARACTERISTICS:
            (i)
                       LENGTH: 18 base pairs
                  (A)
                               nucleic acid
                       TYPE:
                   (B)
                                        single
                        STRANDEDNESS:
                   (C)
  45
                        TOPOLOGY:
                                    linear
                   (D)
                  MOLECULE TYPE:
                                    DNA
            (ii)
            (iii) HYPOTHETICAL:
```

```
SEQUENCE DESCRIPTION: SEQ ID NO:50:
         (xi)
                              1.8
                GTTATATT
   TTTTAGGGGT
         INFORMATION FOR SEQ ID NO:51:
5
    (2)
               SEQUENCE CHARACTERISTICS:
         (i)
                              21 base pairs
                     LENGTH:
                (A)
                     TYPE: nucleic acid
                (B)
                     STRANDEDNESS: single
                (C)
                                 linear
                     TOPOLOGY:
                (D)
10
               MOLECULE TYPE:
                                 DNA
         (ii)
         (iii) HYPOTHETICAL:
                               No
                SEQUENCE DESCRIPTION: SEQ ID NO:51:
          (xi)
    TTTTTTTGTT TGGAAAGATA T
                                  21
15
         INFORMATION FOR SEQ ID NO:52:
     (2)
                SEQUENCE CHARACTERISTICS:
          (i)
 þek
                     LENGTH: 16 base pairs
                 (A)
 C)
                     TYPE: nucleic acid
                 (B)
20
                      STRANDEDNESS:
                                     single
                 (C)
 FaF
                                 linear
                     TOPOLOGY:
 m
                 (D)
                                 DNA
                MOLECULE TYPE:
 17
          (ii)
          (iii) HYPOTHETICAL: No
                 SEQUENCE DESCRIPTION: SEQ ID NO:52:
25<sup>[]]</sup>
          (xi)
     GTTGGTGGTG TTGTAT
                             16
          INFORMATION FOR SEQ ID NO:53:
  ğai.
     (2)
 3(
                 SEQUENCE CHARACTERISTICS:
           (i)
                     LENGTH: 19 base pairs
                 (A)
                      TYPE: nucleic acid
                 (B)
                      STRANDEDNESS:
                                      single
                 (C)
                                  linear
                      TOPOLOGY:
                 (D)
                 MOLECULE TYPE:
                                  DNA
           (ii)
 35
           (iii) HYPOTHETICAL:
                                 No
                 SEQUENCE DESCRIPTION: SEQ ID NO:53:
           (xi)
      AGGTTATGAT GATGGGTAG
                                19
 40
           INFORMATION FOR SEQ ID NO:54:
      (2)
                  SEQUENCE CHARACTERISTICS:
           (i)
                       LENGTH: 22 base pairs
                  (A)
                       TYPE: nucleic acid
                  (B)
                       STRANDEDNESS:
                                       single
                 (C)
  45
                       TOPOLOGY:
                                   linear
                  (D)
            (ii) MOLECULE TYPE:
                                   DNA
            (iii) HYPOTHETICAL:
```